AMENDMENTS

In the Claims:

1. (**Currently Amended**) A structure for the construction of one of a microscale and nanoscale device, comprising:

a rigid frame supporting a tensile diaphragm, the diaphragm having a first region comprising material having a net compressive strain energy, said region having a first thickness and a first lateral extent, and a second region laterally adjacent to the first region, the second region comprising material having a net tensile strain energy,

wherein the net strain energies of the first region plus the second region are tensile, and wherein the first lateral extent of the first region **and** ~~in relation to~~ the first thickness **have a width to thickness ratio that** is sufficiently small to avoid buckling or wrinkling of the first region.

2. (**Original**) A structure as recited in claim 1, wherein the nanoscale device is a nanopore.

3. (**Original**) A structure as recited in claim 1, wherein the first region comprises a layer of silicon dioxide.

4. (**Original**) A structure as recited in claim 1, wherein the second region comprises a composite set of layers.

5. (**Original**) A structure as recited in claim 4, wherein one of the composite set of layers comprises a layer of silicon nitride.

6. (**Original**) A structure as recited in claim 5, wherein the silicon nitride layer is from 50 nm to 500 nm in thickness.

7. (**Original**) A structure as recited in claim 5, wherein the silicon nitride layer is about 200 nm thick.

8. **(Original)** A structure as recited in claim 4, wherein one of the composite set of layers comprises a layer of silicon dioxide.

9. **(Original)** A structure as recited in claim 8, wherein the silicon dioxide layer is from 50 to 600 nm in thickness.

10. **(Original)** A structure as recited in claim 1, wherein the first region is from 50 to 600 nm in thickness.

11. **(Original)** A structure as recited in claim 1, wherein the first region is about 500 nm thick.

12. **(Original)** A structure as recited in claim 1, wherein the tensile diaphragm has a width to thickness ratio from about 4 to about 1000.

13. **(Original)** A structure as recited in claim 1, wherein the width of the tensile diaphragm is about 40 micrometers.

14. **(Original)** A structure as recited in claim 1, wherein the first region has a width to thickness ratio from about 4 to about 60.

15. **(Original)** A structure as recited in claim 1, wherein the first region has a width of about 5 micrometers.

16.-20. **(Canceled)**

21. **(New)** A structure for the construction of one of a microscale and nanoscale device, comprising:

a rigid frame supporting a tensile diaphragm, the diaphragm having a first region comprising material having a net compressive strain energy, said region having a first thickness and a first lateral extent, and a second region laterally

adjacent to the first region, the second region comprising material having a net tensile strain energy,

wherein the net strain energies of the first region plus the second region are tensile, and wherein the first lateral extent of the first region and the first thickness have a width to thickness ratio from about 4 to about 60.

22. **(New)** A structure as recited in claim 21, wherein the nanoscale device is a nanopore.

23. **(New)** A structure as recited in claim 21, wherein the first region comprises a layer of silicon dioxide.

24. **(New)** A structure as recited in claim 21, wherein the second region comprises a composite set of layers.

25. **(New)** A structure as recited in claim 24, wherein one of the composite set of layers comprises a layer of silicon nitride.